REMARKS

Claims 3, 7-9 and 13-16 stand rejected as being indefinite under 35 USC 112, second paragraph. Claims 3 and 7-16 have been amended without prejudice in an effort to expedite prosecution. The applicant has amended each claim to incorporate language that provides for more detailed antecedent basis. However, applicant believes that, in most instances, sufficient antecedent basis for those terms objected to by the Examiner were present in the original claims. Claims 13 and 15 have been amended so that it is more clearly ascertainable that the cutting tool bit recitations in the claims are not to be considered as claim limitations, but are only functional and statements of intended use language.

On August 2, 2002, a telephone interview was conducted with Examiner Singh to discuss the outstanding rejection. During the interview, claims 1-8 were discussed in detail, and the outstanding rejection of claims 9-16 in more general terms. In the interview, Examiner Singh agreed that, if claims 1 and 6 were amended to recite that the protective sleeves were non-rotatable, the rejection of independent claims 1 and 6, as being anticipated by Crosby 3,865,437 and Emmerich 4,084,856 would be withdrawn, and claims 1 and 6 would receive favorable consideration over such amended claims. Support for this amendment is found on page 3, lines 14-17, of the specification.

The Examiner, however, upon reviewing the art of record, believed that the Ojanen 5,303,984 patent disclosed a non-rotatable wear sleeve 26 meeting all the limitations set forth in claim 1. The Examiner agreed that by amending claim 1 to recite that the intermediate portion is a closed ring configuration, in contrast to Ojanen '984, which discloses a wear sleeve split along its entire length, claim 1 would receive favorable consideration over Ojanen '984. Along those lines, claim 1 has now been amended to include substantively similar language reciting that the wear sleeve is partially split to define it over the wear sleeve in

Ojanen '984, Ojanen's wear sleeve is split from the rearward to forward end of the wear sleeve. No new matter has been added. Support for this limitation can be found on page 6, lines 20-33, of the original specification, and is illustrated in the original drawings (figures 2a, 6 and 4). To provide proper antecedent basis for the amended claim terminology, in accordance with 37 CFR 1.75(d)1 and MPEP 608.01(o), the specification has been correspondingly amended on page 6.

New claims 17 and 19 recite the exterior outer diameters of the split ring portion and intermediate cylindrical portion are uniform. Support for these claimed limitations are found on page 6, lines 22-25, of the specification. It should be noted that both Crosby '437, at 24/46, and Emmerich '856, at 84, disclose protuberances on their outer surfaces of their wear sleeves.

Claims 9-16 stand rejected under 35 USC 102 (b) as being anticipated by Montgomery 4,542,943. In column 4, lines 35-39, the angle of the top side surfaces of the block at 30 in figure 7 of Montgomery '943 is described as being "preferably" 10 degrees. In claim 9, as amended, this angle is recited as being about or at least 15 degrees. The Montgomery reference fails to disclose the angle as being 15 degrees. Rather, Montgomery '943 indicates a preference of the angle being 10 degrees.

With respect to the Examiner's assertion that the cutting tip shown in figure 3 of Montgomery '943 discloses a bit holder that is situated so that 75% of the holder is positioned aft of the central vertical axis, the applicant strongly disagrees. The bit holder 4 shown in figure 3 is centrally positioned on top of the base 2. At best, 50% of the bit holder is located aft of the central vertical axis of the block.

Claims 9-16 stand rejected under 35 USC 102 (b) as being anticipated by Kennametal sales brochure "The Mining Too Authority ... Cutting and Drilling

Systems ... for Underground and Surface Mining". The Examiner refers to page 83 of the sales brochure, which illustrates a T-shaped holder that is fit into a cooperating T-slot in the holder base. The Examiner alleges that the top surfaces of the T-slot symmetrically positioned about and along the length of the groove "appear" to be angled between 10-15 degrees with respect to the horizontal.

The applicant respectfully disagrees with the examiner's position that claims 9-16 are anticipated by the Kennametal sales brochure. For a proper 35 USC 102 rejection, each and every element recited in the claims must be explicitly disclosed in the reference. The sales brochure does not explicitly state that the angle of the top surfaces with respect to the horizontal are designed to reduce rotation of the bit holder about the vertical axis, nor was the angle measured by the Examiner?

In response to the objection to the drawings raised by the Examiner, under 37 CFR 1.84(p)(4), drawing corrections in red ink are submitted with this amendment for review and approval by the Examiner.

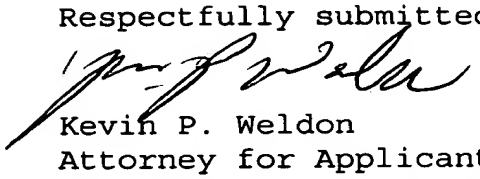
In view of the remarks, and above amendments and arguments, it is believed that claims 1-9 and 12-24 are patentable over the art of record. Thus, applicant respectfully requests a Notice of Allowance indicating claims 1-9 and 12-24 as being allowable. If for any reason the examiner does not believe that the application is in condition for allowance, the examiner is requested to telephone applicant with any comments or questions (724-539-3848) in order to expedite prosecution of the application.

Applicants petition for an Extension of Time of three months, from February 11, 2002. Please charge fees to Deposit Account 11-0508.

The Commissioner is hereby authorized to charge any fees, including additional filing fees required under 37 CFR 1.16 and 1.17, in connection with

this submission to Kennametal Inc. corporate Deposit Account 11-0508.

Respectfully submitted,



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RESPONSE TO OFFICE ACTION

(Version with markings to show changes made)

IN THE SPECIFICATION:

Page 6, line 20, through line 33:

The partially split wear sleeve 14 is friction fit into the stepped bore. The wear sleeve initially has a central bore of uniform diameter, a split ring portion 30, an intermediate cylindrical portion 32 and a shoulder portion 34. The intermediate portion and split ring portions outer diameters are uniform. The wear sleeve is inserted into the bit holder's stepped bore aperture by the use of a hammer. The split ring portion 30 is radially compressed by the smaller diameter opposite end portion 30 as the sleeve is hammered into position in the bit holder. The split ring portion forms adequate frictional contact with the opposite end portion of the aperture. The wear sleeve friction fit can be easily removed manually in the field. The partially split wear sleeve 14 is friction fit into the stepped bore. The wear sleeve initially before being inserted into the bit holder has a central bore of uniform diameter, a split ring portion 30, an intermediate cylindrical portion 32 and a shoulder portion 34. The intermediate portion and split ring portions outer diameters are uniform. The wear sleeve is inserted into the bit holder's stepped bore aperture by the use of a hammer. The split ring portion 30 is radially compressed by the smaller diameter opposite end portion 30 as the sleeve is hammered into position in the bit holder. The split ring portion forms adequate frictional contact with the opposite end portion of the aperture. The wear sleeve friction fit can be easily removed manually in the field.

Page 5, line 28, through pag 6, line 4:

Figure 2a discloses in more detail the wear sleeve 14, the bit holder 12 and the support block 10.

The bit holder 12 is connected to the support block 10 by a bolt 18. The support block has a bore ~~22~~ for receiving the bolt 18. A washer 20 is placed on the bolt head prior to inserting the bolt into a bore ~~22~~. The bolt is threaded into a threaded portion of the bore in the bit holder. The bolt is then tightened to wedge the bit holder into position on the support block.

Page 7, line 3, through line 23:

In one example of this embodiment, the forward end portion of the step bore diameter (A) is 1.185" and the opposite end portion of the step bore 28 diameter (B) is 1.166". The outside diameter (C) of the wear sleeve is 1.181" and has an inner diameter of .783". The split ring portion of the wear sleeve upon insertion into the bit holder bore is radially compressed and squeezed into position. The slot 31 is approximately .12" inches in width to enable the split ring portion to be squeezed into the smaller diameter portion 28 of the step bore. The slot extends for less than half the length of the wear sleeve body. The split spring portion is made from a spring like resilient material that upon insertion into the stepped bore becomes biased and exerts a radial force component against the bore surface. The wear sleeve can be constructed from 4140 Steel. A resultant axial frictional force component exists between the cooperating contact surfaces of the split ring wear sleeve and smaller diameter portion the stepped bore. This frictional fit holds the wear sleeve in position against axial pulling forces on the cutting tool.

Page 8, line 33, through page 9, line 15:

Figure 2 shows the front view of the first embodiment in which the support block groove 19 and T-shaped Key 44 are illustrated. The bit holder 12 rests on top of the support block on symmetric top surfaces 46 adjacent to the centrally located groove 19.

The top surfaces 46 of the support block are oriented at an angle (beta) with respect to the horizontal. In the prior art these surfaces are angled at approximately 10 degrees to the horizontal. The present design includes an angle of at least 15 degrees. In one contemplated embodiment the top surfaces are angled at about 15 degrees. The bit holder has a surface that forms a complimentary angle with the top surface of the support block so that the bit holder makes uninterrupted contact with surface 46. This angle of inclination prevents back and forth movement along Z-axis. This inhibition of movement of the bit holder away from the Z-axis accordingly limits rotation about the Y axis. This reduction in yaw about the Y axis reduces the amount of wear between the bit holder and support block.

Page 9, line 35, through page 10, line 10:

In figure 2a a bore hole 17 is illustrated that traverses the length of the bit holder shank from an opening on the front face to an opening on the rearward face. The portion of the ~~bore~~ bit holder adjacent to the rearward face is threaded for receiving bolt 18. The forward portion of the bore is for the purpose of preferentially weakening the block by reducing the cross sectional area along a plane of the bit holder. When abnormally high loads are applied to the cutting tool bit holders the bit holder will break along this preferentially weakened portion of the bit holder and prevent the support block from being ripped off the drum.

Page 9, line 16, through line 34:

In addition to the angle of inclination of the top faces 46 of the support block and correspond bit holder surfaces. The bit holder bore 24 is positioned more aft from the central axis N-N as seen in Figure 2a than prior art bit holder bores. In figure 2a, 75% of the bit holder 12 bore is positioned aft of the central

vertical axis N-N. The bit holder bore location results in the cutting tool 16 tip location being positioned more towards the aft and closer to the central axis N-N. The closer that the extreme tip of the cutting tool is to the support block central axis N-N the shorter the effective moment arm about the central axis. Hence the torques applied to the bit holder are limited and hence the resulting wear caused by movement of the bit holder against the support block is reduced. In combination the further aft location of the cutting tool and the angled top faces of the support block substantially reduce the torque applied to the cutting tool and the resulting yaw. The reduced yaw of the bit holder results in extended life of the bit holder and support block.

IN THE ABSTRACT:

Please substitute the following Abstract for the original Abstract:

ABSTRACT

The wear sleeve in the present ~~invention~~ cutter tool assembly comprises a rearward split ring portion and an intermediate cylindrical ring portion adjacent a forward shoulder portion. The outer diameter of the wear sleeve intermediate portion and rearward split ring portion is uniform. The wear sleeve is inserted into the bit holder's stepped bore aperture. The split ring portion is radially compressed by the smaller diameter ~~opposite position~~ rearward end as the sleeve is hammered and axially displaced into the bit holder. The split ring portion forms frictional contact with the opposite end portion of the aperture. The wear sleeve friction fit can be easily removed manually in the field. The bit holder and cooperating support block are designed to limit the amount of relative yaw between the two members during operation to reduce the overall wear there between. The ~~invention~~ cutter tool assembly includes a groove having side surfaces that are inclined

at least 15 degrees with respect to the horizontal axis and the cutting bit is positioned more ~~apt~~ aft of ~~toward~~ the central axis of the support block than prior art designs.

IN THE CLAIMS:

1. (Amended) A non-rotatable protective sleeve for a bit holder on a cutting tool assembly comprising: a partially split body element including a forward portion adjacent an intermediate portion and a split portion adjacent said intermediate portion, said body element adapted to be receivable in said bit holder.

2. (Amended) The non-rotatable protective sleeve of claim 1 wherein said split portion extends for less than half the length of said body element.

3. (Amended) The non-rotatable protective sleeve of claim 1 wherein said forward portion is a collar for protecting the bit holder from axial forces applied to ~~a~~ said cutting tool bit.

4. (Amended) The non-rotatable protective sleeve of claim 1 wherein said split portion and said intermediate portion are cylindrical.

5. (Amended) The non-rotatable protective sleeve of claim 4 wherein said cylindrical intermediate portion and said cylindrical split portion have external surfaces of uniform diameter.

6. (Amended) A cutter tool assembly for attachment to cutting tool machinery comprising:

a bit holder block having a cavity bore,

a non-rotatable partially split protective wear sleeve including a forward portion adjacent an intermediate portion and a split portion adjacent said intermediate portion,

said protective wear sleeve is adapted to be received in said bit holder block.

7. (Amended) The cutter tool assembly of claim 6 wherein said cavity bore is a stepped bore having a forward portion with a larger diameter ~~and~~ than a smaller diameter rearward portion ~~having a smaller diameter~~.

8. (Amended) The cutter tool assembly of claim 7 wherein said cavity bore has a tapered surface between the larger step bore and the smaller step bore.

9. (Amended) A cutter tool assembly for attachment to cutting tool machinery comprising:

a bit holder having a T-shaped key shank,

a support block having a T-shaped groove for receiving said bit holder T-shaped key shank, wherein said support block has symmetric top surfaces flanking said T-shaped groove, said support block having a central vertical axis, said symmetric top surfaces are oriented at least about an angle of about 15 degrees with respect to ~~the~~ a horizontal plane so as to reduce rotation of the bit holder about said central vertical axis.

13. (Amended) The cutter tool assembly according to claim 9, wherein said bit holder includes a bore for receiving a shank of a cutting tool bit, ~~said cutting tool bit having tip end opposite said shank, said bore having a forward end adjacent said tip,~~

wherein said bit holder bore is positioned generally aft of the central vertical axis ~~so as to locate~~ for locating a ~~the~~ cutting tip closer to the vertical central axis of the support block limiting the amount of torque applied to said cutter tool assembly during operation.

14. (Amended) The cutter tool assembly according to claim 13, wherein said ~~portion of said~~ bit holder bore positioned aft of said central vertical axis is approximately 75%.

15. (Amended) A cutter tool assembly for attachment to cutting tool machinery comprising:

a bit holder,

a support block wherein said support block has a central vertical axis, said bit holder includes a bore for receiving a shank of a cutting tool bit, ~~said cutting tool bit having a tip end opposite said shank,~~

wherein said bit holder bore is positioned generally aft of the central vertical axis ~~so as to locate~~ for locating a ~~the~~ cutting tip closer to the central axis of the support block limiting the amount of torque applied to said cutter tool assembly during operation.

16. (Amended) The cutter tool assembly according to claim 15, wherein said ~~portion of said~~ bit holder bore positioned aft of said central vertical axis is approximately 75%.